

## **Laboratory evaluation of reclaimed rubber asphaltic concrete mixes**

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**Abstract:** The aim of this research is to evaluate in the laboratory the effects of introducing reclaimed rubber particles from scrap tires in the preparation of local asphaltic concrete mixes. Rubber is used to modify the asphalt in the order of 10%, 20%, and 30% by weight, and 3% by aggregate weight as part of the aggregates. Characterization tests are conducted on the plain and modified binder, and to the optimum Marshall fabricated specimens. Binder tests include softening point and viscosity, while tests on the mixes include static tests such as Marshall and Hveem stability, split tensile strength and creep tests, and dynamic tests such as resilient modulus and fatigue behavior at 25°C and 45°C. Results show that the softening point of the binder increases with increasing rubber content; on the other hand, mixes with an increased rubber content of more than 10% show no improvement in the properties as compared to mixes with 10% rubber binder, which seems to have more potential in the enhancement of the properties of these mixes. The results will hopefully lead to the improvement of the performance of pavement mixes under local conditions.